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SEQUENCE LISTING

<110> Schrier, Peter I.
Aarnoudse, Corlien
Heider, Karl-Heinz
Klade, Christoph

<120> Camel, An Alternative Translation Product of the Tumor
Antigen-Lage 1

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<140> 09/807,512

<141> 2001-04-16

<150> PCT/EP99/07832

<151> 1999-10-15

<150> EP 98119583.7

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CAG	GGG	GCA	ATG	CTG	GCG	GCC	CAG	GAG	AGG	CGG	GTG	CCA	CGG	GCG	GCA	96
Gln	Gly	Ala	Met	Leu	Ala	Ala	Gln	Glu	Arg	Arg	Val	Pro	Arg	Ala	Ala	
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GAG	GTC	CCC	GGG	GCG	CAG	GGG	CAG	CAA	GGG	CCT	CGG	GGC	CGA	GAG	GAG	144
Glu	Val	Pro	Gly	Ala	Gln	Gly	Gln	Gln	Gly	Pro	Arg	Gly	Arg	Glu	Glu	
	30				35				40					45		

GCG	CCC	CGC	GGG	GTC	CGC	ATG	GCG	GTG	CCG	CTT	CTG	CGC	AGG	ATG	GAA	192
Ala	Pro	Arg	Gly	Val	Arg	Met	Ala	Val	Pro	Leu	Leu	Arg	Arg	Met	Glu	

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 Thr Ser Arg Cys Leu Ser Arg Arg Pro Trp Lys Arg Ser Trp Ser Ala
 80 85 90

GGA TCC TGT CCC GGG ATG CCG CAC CTC TCC CCC GAC CAG GGG CGG TTC 336
 Gly Ser Cys Pro Gly Met Pro His Leu Ser Pro Asp Gln Gly Arg Phe
 95 100 105

TGA AGGACTTCAC CGTGTCCGGC AACCTACTGT TTATCCGACT GACTGCTGCA 389

GACCACCGCC AACTGCAGCT CTCCATCAGC TCCTGTCTCC AGCAGCTTTC CCTGTTGATG 449

TGGATCACGC AGTGCTTTCT GCCCGTGTTT TTGGCTCAGG CTCCCTCAGG GCAGAGGCGC 509

TAAGCCCAGC CTGGCGCCCC TTCCTAGGTC ATGCCTCCTC CCCTAGGGAA TGGTCCCAGC 569

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Gly Ala Gln Gly Gln Gln Gly Pro Arg Gly Arg Glu Glu Ala Pro Arg
 35 40 45

Gly Val Arg Met Ala Val Pro Leu Leu Arg Arg Met Glu Gly Ala Pro
 50 55 60

Ala Gly Pro Gly Gly Arg Thr Ala Ala Cys Phe Ser Cys Thr Ser Arg
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Cys Leu Ser Arg Arg Pro Trp Lys Arg Ser Trp Ser Ala Gly Ser Cys
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Pro Gly Met Pro His Leu Ser Pro Asp Gln Gly Arg Phe
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Gln Ala Glu Gly Gln Gly Thr Gly Gly Ser Thr Gly Asp Ala Asp Gly	
5 10 15	
CCA GGA GGC CCT GGC ATT CCT GAT GGC CCA GGG GGC AAT GCT GGC GGC	152
Pro Gly Gly Pro Gly Ile Pro Asp Gly Pro Gly Gly Asn Ala Gly Gly	
20 25 30	
CCA GGA GAG GCG GGT GCC ACG GGC GGC AGA GGT CCC CGG GGC GCA GGG	200
Pro Gly Glu Ala Gly Ala Thr Gly Gly Arg Gly Pro Arg Gly Ala Gly	
35 40 45	
GCA GCA AGG GCC TCG GGG CCG AGA GGA GGC GCC CCG CGG GGT CCG CAT	248
Ala Ala Arg Ala Ser Gly Pro Arg Gly Gly Ala Pro Arg Gly Pro His	
50 55 60 65	
GGC GGT GCC GCT TCT GCG CAG GAT GGA AGG TGC CCC TGC GGG GCC AGG	296
Gly Gly Ala Ala Ser Ala Gln Asp Gly Arg Cys Pro Cys Gly Ala Arg	
70 75 80	
AGG CCG GAC AGC CGC CTG CTT CAG TTG CAC ATC ACG ATG CCT TTC TCG	344
Arg Pro Asp Ser Arg Leu Leu Gln Leu His Ile Thr Met Pro Phe Ser	
85 90 95	
TCG CCC ATG GAA GCG GAG CTG GTC CGC AGG ATC CTG TCC CGG GAT GCC	392
Ser Pro Met Glu Ala Glu Leu Val Arg Arg Ile Leu Ser Arg Asp Ala	
100 105 110	
GCA CCT CTC CCC CGA CCA GGG GCG GTT CTG AAG GAC TTC ACC GTG TCC	440
Ala Pro Leu Pro Arg Pro Gly Ala Val Leu Lys Asp Phe Thr Val Ser	
115 120 125	
GGC AAC CTA CTG TTT ATC CGA CTG ACT GCT GCA GAC CAC CGC CAA CTG	488
Gly Asn Leu Leu Phe Ile Arg Leu Thr Ala Ala Asp His Arg Gln Leu	
130 135 140 145	
CAG CTC TCC ATC AGC TCC TGT CTC CAG CAG CTT TCC CTG TTG ATG TGG	536
Gln Leu Ser Ile Ser Ser Cys Leu Gln Gln Leu Ser Leu Leu Met Trp	
150 155 160	

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ATC ACG CAG TGC TTT CTG CCC GTG TTT TTG GCT CAG GCT CCC TCA GGG 584
 Ile Thr Gln Cys Phe Leu Pro Val Phe Leu Ala Gln Ala Pro Ser Gly
 165 170 175

CAG AGG CGC TAA GCCCAGCCTG GCGCCCTTC CTAGGTCATG CCTCCTCCCC 636
 Gln Arg Arg
 180

TAGGGAATGG TCCCAGCACG AGTGGCCAGT TCATTGTGGG GGCCTGATTG TTTGTGCTG 696
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Gly Pro Gly Glu Ala Gly Ala Thr Gly Gly Arg Gly Pro Arg Gly Ala
 35 40 45

Gly Ala Ala Arg Ala Ser Gly Pro Arg Gly Gly Ala Pro Arg Gly Pro
 50 55 60

His Gly Gly Ala Ala Ser Ala Gln Asp Gly Arg Cys Pro Cys Gly Ala
 65 70 75 80

Arg Arg Pro Asp Ser Arg Leu Leu Gln Leu His Ile Thr Met Pro Phe
 85 90 95

Ser Ser Pro Met Glu Ala Glu Leu Val Arg Arg Ile Leu Ser Arg Asp
 100 105 110

Ala Ala Pro Leu Pro Arg Pro Gly Ala Val Leu Lys Asp Phe Thr Val
 115 120 125

Ser Gly Asn Leu Leu Phe Ile Arg Leu Thr Ala Ala Asp His Arg Gln
 130 135 140

Leu Gln Leu Ser Ile Ser Ser Cys Leu Gln Gln Leu Ser Leu Leu Met
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Gly Gln Arg Arg
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Gln Ala Glu Gly Gln Gly Thr Gly Gly Ser Thr Gly Asp Ala Asp Gly
           5              10              15

CCA GGA GGC CCT GGC ATT CCT GAT GGC CCA GGG GGC AAT GCT GGC GGC      154
Pro Gly Gly Pro Gly Ile Pro Asp Gly Pro Gly Gly Asn Ala Gly Gly
           20              25              30

CCA GGA GAG GCG GGT GCC ACG GGC GGC AGA GGT CCC CGG GGC GCA GGC      202
Pro Gly Glu Ala Gly Ala Thr Gly Gly Arg Gly Pro Arg Gly Ala Gly
           35              40              45

GCA GCA AGG GCC TCG GGG CCG AGA GGA GGC GCC CCG CGG GGT CCG CAT      250
Ala Ala Arg Ala Ser Gly Pro Arg Gly Gly Ala Pro Arg Gly Pro His
           50              55              60              65

GGC GGT GCC GCT TCT GCG CAG GAT GGA AGG TGC CCC TGC GGG GCC AGG      298
Gly Gly Ala Ala Ser Ala Gln Asp Gly Arg Cys Pro Cys Gly Ala Arg
           70              75              80

AGG CCG GAC AGC CGC CTG CTT CAG TTG CAC ATC ACG ATG CCT TTC TCG      346
Arg Pro Asp Ser Arg Leu Leu Gln Leu His Ile Thr Met Pro Phe Ser
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TCG CCC ATG GAA GCG GAG CTG GTC CGC AGG ATC CTG TCC CGG GAT GCC      394
Ser Pro Met Glu Ala Glu Leu Val Arg Arg Ile Leu Ser Arg Asp Ala
           100             105             110

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Ala Pro Leu Pro Arg Pro Gly Ala Val Leu Lys Asp Phe Thr Val Ser
           115             120             125

GGC AAC CTA CTG TTT ATG TCA GTT CGG GAC CAG GAC AGG GAA GGC GCT      490
Gly Asn Leu Leu Phe Met Ser Val Arg Asp Gln Asp Arg Glu Gly Ala
           130             135             140             145

GGG CGG ATG AGG GTG GTG GGT TGG GGG CTG GGA TCC GCC TCC CCG GAG      538
Gly Arg Met Arg Val Val Gly Trp Gly Leu Gly Ser Ala Ser Pro Glu
           150             155             160

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GGG CAG AAA GCT AGA GAT CTC AGA ACA CCC AAA CAC AAG GTC TCA GAA 586
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 Gln Arg Pro Gly Thr Pro Gly Pro Pro Pro Pro Glu Gly Ala Gln Gly
 180 185 190

GAT GGG TGC AGA GGT GTC GCC TTT AAT GTG ATG TTC TCT GCC CCT CAC 682
 Asp Gly Cys Arg Gly Val Ala Phe Asn Val Met Phe Ser Ala Pro His
 195 200 205

ATT TAG CCGACTGACT GCTGCAGACC ACCGCCAACT GCAGCTCTCC ATCAGCTCCT 738
 Ile
 210

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CTCAGGCTCC CTCAGGGCAG AGGCGCTAAG CCCAGCCTGG CGCCCCTTCC TAGGTCATGC 858

CTCCTCCCCT AGGGAATGGT CCCAGCACGA GTGGCCAGTT CATTGTGGGG GCCTGATTGT 918

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Gly Pro Gly Glu Ala Gly Ala Thr Gly Gly Arg Gly Pro Arg Gly Ala
 35 40 45

Gly Ala Ala Arg Ala Ser Gly Pro Arg Gly Gly Ala Pro Arg Gly Pro
 50 55 60

His Gly Gly Ala Ala Ser Ala Gln Asp Gly Arg Cys Pro Cys Gly Ala
 65 70 75 80

Arg Arg Pro Asp Ser Arg Leu Leu Gln Leu His Ile Thr Met Pro Phe
 85 90 95

Ser Ser Pro Met Glu Ala Glu Leu Val Arg Arg Ile Leu Ser Arg Asp
 100 105 110

Ala Ala Pro Leu Pro Arg Pro Gly Ala Val Leu Lys Asp Phe Thr Val
 115 120 125

Ser Gly Asn Leu Leu Phe Met Ser Val Arg Asp Gln Asp Arg Glu Gly
 130 135 140

Ala Gly Arg Met Arg Val Val Gly Trp Gly Leu Gly Ser Ala Ser Pro
 145 150 155 160

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Glu	Gly	Gln	Lys	Ala	Arg	Asp	Leu	Arg	Thr	Pro	Lys	His	Lys	Val	Ser	
				165					170					175		
Glu	Gln	Arg	Pro	Gly	Thr	Pro	Gly	Pro	Pro	Pro	Pro	Glu	Gly	Ala	Gln	
				180					185					190		
Gly	Asp	Gly	Cys	Arg	Gly	Val	Ala	Phe	Asn	Val	Met	Phe	Ser	Ala	Pro	
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						1										
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Gln	Ala	Glu	Gly	Arg	Gly	Thr	Gly	Gly	Ser	Thr	Gly	Asp	Ala	Asp	Gly	
			5					10					15			
CCA	GGA	GGC	CCT	GGC	ATT	CCT	GAT	GGC	CCA	GGG	GGC	AAT	GCT	GGC	GGC	152
Pro	Gly	Gly	Pro	Gly	Ile	Pro	Asp	Gly	Pro	Gly	Gly	Asn	Ala	Gly	Gly	
			20				25					30				
CCA	GGA	GAG	GCG	GGT	GCC	ACG	GGC	GGC	AGA	GGT	CCC	CGG	GGC	GCA	GGG	200
Pro	Gly	Glu	Ala	Gly	Ala	Thr	Gly	Gly	Arg	Gly	Pro	Arg	Gly	Ala	Gly	
			35			40					45					
GCA	GCA	AGG	GCC	TCG	GGG	CCG	GGA	GGA	GGC	GCC	CCG	CGG	GGT	CCG	CAT	248
Ala	Ala	Arg	Ala	Ser	Gly	Pro	Gly	Gly	Gly	Ala	Pro	Arg	Gly	Pro	His	
	50				55					60					65	
GGC	GGC	GCG	GCT	TCA	GGG	CTG	AAT	GGA	TGC	TGC	AGA	TGC	GGG	GCC	AGG	296
Gly	Gly	Ala	Ala	Ser	Gly	Leu	Asn	Gly	Cys	Cys	Arg	Cys	Gly	Ala	Arg	
				70					75				80			
GGG	CCG	GAG	AGC	CGC	CTG	CTT	GAG	TTC	TAC	CTC	GCC	ATG	CCT	TTC	GCG	344
Gly	Pro	Glu	Ser	Arg	Leu	Leu	Glu	Phe	Tyr	Leu	Ala	Met	Pro	Phe	Ala	

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85	90	95	
ACA CCC ATG GAA GCA GAG CTG GCC CGC AGG AGC CTG GCC CAG GAT GCC			392
Thr Pro Met Glu Ala Glu Leu Ala Arg Arg Ser Leu Ala Gln Asp Ala			
100	105	110	
CCA CCG CTT CCC GTG CCA GGG GTG CTT CTG AAG GAG TTC ACT GTG TCC			440
Pro Pro Leu Pro Val Pro Gly Val Leu Leu Lys Glu Phe Thr Val Ser			
115	120	125	
GGC AAC ATA CTG ACT ATC CGA CTG ACT GCT GCA GAC CAC CGC CAA CTG			488
Gly Asn Ile Leu Thr Ile Arg Leu Thr Ala Ala Asp His Arg Gln Leu			
130	135	140	145
CAG CTC TCC ATC AGC TCC TGT CTC CAG CAG CTT TCC CTG TTG ATG TGG			536
Gln Leu Ser Ile Ser Ser Cys Leu Gln Gln Leu Ser Leu Leu Met Trp			
150	155	160	
ATC ACG CAG TGC TTT CTG CCC GTG TTT TTG GCT CAG CCT CCC TCA GGG			584
Ile Thr Gln Cys Phe Leu Pro Val Phe Leu Ala Gln Pro Pro Ser Gly			
165	170	175	
CAG AGG CGC TAA GCCCAGCCTG GCGCCCTTC CTAGGTCATG CCTCCTCCCC			636
Gln Arg Arg			
180			
TAGGGAATGG TCCCAGCACG AGTGGCCAGT TCATTGTGGG GGCCTGATTG TTTGTGCTG			696
GAGGAGGACG GCTTACATGT TTGTTTCTGT AGAAAATAAA ACTGAGCTAC GAAAAA			752

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35 40 45	
Gly Ala Ala Arg Ala Ser Gly Pro Gly Gly Gly Ala Pro Arg Gly Pro	
50 55 60	
His Gly Gly Ala Ala Ser Gly Leu Asn Gly Cys Cys Arg Cys Gly Ala	
65 70 75 80	
Arg Gly Pro Glu Ser Arg Leu Leu Glu Phe Tyr Leu Ala Met Pro Phe	
85 90 95	
Ala Thr Pro Met Glu Ala Glu Leu Ala Arg Arg Ser Leu Ala Gln Asp	
100 105 110	
Ala Pro Pro Leu Pro Val Pro Gly Val Leu Leu Lys Glu Phe Thr Val	
115 120 125	

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Ser Gly Asn Ile Leu Thr Ile Arg Leu Thr Ala Ala Asp His Arg Gln
 130 135 140

Leu Gln Leu Ser Ile Ser Ser Cys Leu Gln Gln Leu Ser Leu Leu Met
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CTG GCA TTC CTG ATG GCC CAG GGG GCA ATG CTG GCG GCC CAG GAG AGG 162
 Leu Ala Phe Leu Met Ala Gln Gly Ala Met Leu Ala Ala Gln Glu Arg
 10 15 20

CGG GTG CCA CGG GCG GCA GAG GTC CCC GGG GCG CAG GGG CAG CAA GGG 210
 Arg Val Pro Arg Ala Ala Glu Val Pro Gly Ala Gln Gly Gln Gln Gly
 25 30 35

CCT CGG GGC CGG GAG GAG GCG CCC CGC GGG GTC CGC ATG GCG GCG CGG 258
 Pro Arg Gly Arg Glu Ala Pro Arg Gly Val Arg Met Ala Ala Arg
 40 45 50 55

CTT CAG GGC TGA ATGGATGCTG CAGATGCGGG GCCAGGGGGC CGGAGAGCCG 310
 Leu Gln Gly

CCTGCTTGAG TTCTACCTCG CCATGCCTTT CGCGACACCC ATGGAAGCAG AGCTGGCCCCG 370

CAGGAGCCTG GCCCAGGATG CCCCACCGCT TCCCGTGCCA GGGGTGCTTC TGAAGGAGTT 430

CACTGTGTCC GGCAACATAC TGA CTATCCG ACTGACTGCT GCAGACCACC GCCAACTGCA 490

GCTCTCCATC AGCTCCTGTC TCCAGCAGCT TTCCCTGTTG ATGTGGATCA CGCAGTGCTT 550

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 CCCTTCCTAG GTCATGCCTC CTCCCCTAGG GAATGGTCCC AGCACGAGTG GCCAGTTCAT 670
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 Gly Val Arg Met Ala Ala Arg Leu Gln Gly
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Phe Leu Met Ala Gln Gly Ala Met Leu

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5

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Ala Met Leu Ala Ala Gln Glu Arg Arg Val

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Glu	Val	Asp	Pro	Ile	Gly	His	Leu	Tyr
1				5				